COLOR AND APPEARANCE.

VIEWING DEVICES FOR PRECISE EVALUATION OF COLORED SURFACES AND MATERIALS.

JUST NORMLICHT

Powered by Innovation.

JUST. SETTING STANDARDS FOR OVER 40 YEARS.

What started as "the standard" for the graphic arts industry, JUST Normlicht color proof lights soon found their way into other sectors such as the automotive, furniture and textile industries. A true color reproduction based on an original template is a prerequisite in order to meet the ever more demanding quality assurance requirements.

Compliance with meeting the requirements and conditions of industry standards has been the mission of JUST Normlicht for over 40 years. This important link in the color quality control chain includes complying with ISO 3664:2009, ISO 3668, ASTM D1729, DIN 6173-2 plus other international standards (ASTM, ISO, BSI etc.) for general color evaluation.

1975–2000

Classic Line transparency viewers
The Classic Line transparency viewer with two brightness levels and in three sizes was introduced to the market at the end of the 1970s. Classic Line light panels were the first slide viewers with standardized lighting used by photographers, traditional repro and for catalog production.

Color Control Professional Transparency Viewer with 5000 Kelvin
This progressively adjustable slide viewer was equipped with two brightness levels and was acclaimed by the Design Center Stuttgart and included in the „German Selection 1985".

Color Proof Light
It was in the mid-1980s when JUST first introduced the asymmetrical color proof lights with directed light which enabled virtually glare- and reflection-free color matching. Symmetrical Color Proof Lights with diffused light were used in meeting rooms.

Lithography Workstations
JUST lithographer workstations were used in the 1970s and 1980s for retouching print films in conventional reprography. Workstations were equipped with light tables, slide viewers, photographic templates and a tool holder.

Metrological quality control with spectrophotometers provides reliable indicators, but only in conjunction with a visual color assessment can it offer a complete picture of the achieved color match. The biggest influence on visual matching is lighting. Incorrect lighting leads to misjudgements and then inevitably to complaints and increased costs for the production process.

A frequent requirement is consistent color matching of different materials. In a passenger car, for example, the plastic dashboard, the textile interior and the product images in the catalog should all be reproduced in an identical color. In order to accurately color match the most diverse of materials in accordance with defined standards, high-quality, standardized lighting technology is required.

JUST Normlicht has been developing products and solutions to create controlled lighting conditions in accordance with international standards for over 40 years. Our objective in all of our products – from our JUST daylight fluorescent lamps for daylight replication with 5000 and 6500 Kelvin, through our Color Companion viewing stations to our LED Color Viewing Light booths – is to develop reliable, consistent and standardized lighting systems for you.

2004

proofStation with JUST moduLight
At the turn of the millennium, JUST once again set new benchmarks for color management in the graphic arts industry with its new lighting technology, innovative design and ease of use.

Patented LED technology with LED Color Viewing Light and LED colorControl
By 2008 it was now possible for the first time to use a multispectral LED light source to reproduce any illuminants in the JUST viewing booths resulting in stable lighting conditions and LED-based standardized matching processes.

2008

2012

GL SPECTIS 1.0 touch
The GL Optic brand was launched by JUST to achieve user-friendly, maximum-precision light measurements. The smart GL SPECTIS 1.0 touch spectrometer was the first of its kind in the world. It enables mobile light measurements and is touch-screen operated.

Wall Illuminator
Translucent large-format prints can now also be backlit for the first time with the Wall Illuminator Backlight. Whether for trade show displays or advertising posters, standardized illumination over a complete back wall can now be achieved.

2015

JUST DAYLIGHT 6500
proINDUSTRY

In addition to metrological quality controls, the visual control of color matches is also very important.

The ISO 3668, ASTM D1729 and DIN 6173-2 standards specify a mandatory benchmark for visual color comparisons used in different industries. These describe all the parameters, such as the implementation, viewing and environmental conditions, that are required to ensure a standardized color comparison. The JUST daylight 6500 proIndustry fluorescent lamp complies with these strict standards and as a result creates controlled and reproducible lighting conditions for the standardized matching of a wide range of materials.

CERTIFIED LIGHTING QUALITIY
JUST daylight 6500

Certified standardized light quality – made by JUST.
Spectral light distribution with an improved UV component.

— CIE D65
— JUST daylight 6500 proIndustry

Wavelength [nm]

The test report provided with every delivery of the JUST daylight 6500 proIndustry, confirms compliance with strict specifications.
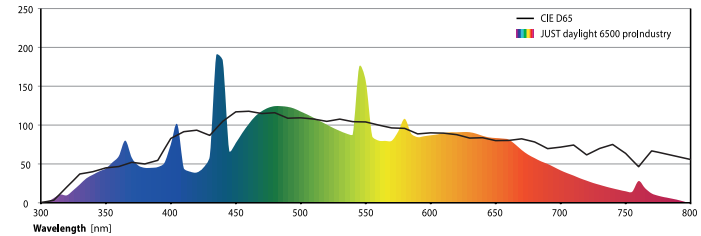
The **JUST daylight 6500 proIndustry** fluorescent lamp, developed specifically for JUST, complies with current industry standards and achieves perfect values.

Regular lamp replacement
Fluorescent lamps change color after about 2,500 operating hours, therefore, to achieve consistent standard lighting conditions we recommend replacing lamps on a regular basis.

JUST daylight 6500 proIndustry achieves perfect values in relation to:

■ **Target Color Point D65**
in accordance with CIE D65. Minimum deviation of ± 0,003 (x, y10°).

■ **Color Rendering Index (CRI)**
high CRI: Ra ≥ 98 with a correlated color temperature of 6500 Kelvin.

■ **Metamerism**
perfect values for metamerism; minimum class BC according to CIE 51.2

■ **Certified light quality**
As a guarantee of the unique light quality of the JUST daylight 6500 proIndustry, you receive a certified measurement report with each delivery.

■ **Ecological front-runner**
JUST is also one-step ahead when it comes to environmental protection as JUST daylight 6500 contains less than 3.5 mg of mercury per lamp.

■ **Unique manufacturing process**
The unique fluorescent lamps using 7-band technology. The light color is generated with seven different phosphors which significantly improves spectral properties.

■ **Light audit**
Our qualified consultants will be happy to advise you in assessing the overall lighting situation at the workstations in your company.
Just ask us!

Article No.	Color temperature	Efficiency (watt)	Length (mm)	Packing unit
JUST daylight 6500 proIndustry				
200446	6500 K	18	590	1 piece
200449	6500 K	18	590	10 pieces
200450	6500 K	18	590	25 pieces
200447	6500 K	36	1200	1 piece
200451	6500 K	36	1200	10 pieces
200452	6500 K	36	1200	25 pieces
200448	6500 K	58	1500	1 piece
200453	6500 K	58	1500	10 pieces
200454	6500 K	58	1500	25 pieces

COLOR VIEWING LIGHT
BASIC / ADVANCED / PROFESSIONAL

The Color Viewing Light range, with its maximum of five different light sources, provides consistent test conditions for visual quality assurance. In contrast to normal lights or even daylight, the spectral composition of light in the viewing booths remains unchanged and therefore, so does the visual color impression.

The application areas are endless, ranging from the matching of coatings, through ceramics to plastics and textiles. Depending on the size of the object, there is always space for reliable color proofing in one of the five different sizes of the Color Viewing Light. In addition, the Electronic Control Panel of the ADVANCED and PROFESSIONAL range has many user-friendly features such as a LAN-interface, web based remote control application, mixed light capabilities, a digital hour meter for all illuminants and lamp dimming.

The five standard illuminants:

D65 Northern daylight for visual matching in accordance with CIE, ISO 3668 and DIN 6173-2 and other standards

A Incandescent lighting such as in the home, hotels and restaurants

TL84 (F11) Typical lighting for offices, showrooms and exhibitions

Equipped as standard with **D50** Daylight for color matching in the graphic arts industry

UV-A for the detection and assessment of materials with optical brighteners, fluorescent dyes and whiteners

On request you can also obtain our Color Viewing Light with additional illuminants such as TL83 (F12) with 3000 Kelvin or Cool White Fluorescent (F2).

Color Vision Viewer with three different light chambers for testing color shifts on identical samples.

Metameric detection
Metameric pairs which appear identical under one specific illuminant, display significant color differences under changed lighting conditions. These color differences can easily be identified with the Color Viewing Light irrespective of the material. The viewing booths can display up to five different illuminants and therefore create reliable conditions for secure color assessment and metameric detection.

COLOR VIEWING LIGHT BASIC

The viewing booths "BASIC" provide a reliable color assessment between three, four or five illuminants. The illuminants are switched on/off by a switch and the lamp's operating life is monitored by a digital hour meter. The compact design of the BASIC Color Viewing Light makes it suitable for small to medium-sized samples, irrespective of the material or intended purpose.

- Cost-effective entry-level class
- A choice of 3, 4 or 5 illuminants
- Digital hour meter for D65
- Compact design

Color Viewing Light 3 BASIC

Product sizes:

S
BASIC
W 70 x H 47 x D 43 cm
ADVANCED & PROFESSIONAL
W 70 x H 51 x D 43 cm

M
ADVANCED & PROFESSIONAL
W 81 x H 60 x D 60 cm

L
ADVANCED & PROFESSIONAL
W 132 x H 71 x D 60 cm

XL
ADVANCED & PROFESSIONAL
W 162 x H 94 x D 60 cm

XXL
ADVANCED & PROFESSIONAL
W 128 x H 111 x D 100 cm

Article No. 230V	Article No. US type	Version	Features	Usable area (W x H x D cm)	Outside dimensions (W x H x D cm)	Relamping Kit 230V	Relamping Kit US type
Color Viewing Light BASIC							
200692	200704	Color Viewing Light 3 BASIC	3 illuminants, digital hour meter (D65)	64 x 33 x 36	70 x 47 x 43	1719	200716
84376	200705	4 BASIC	4 illuminants, digital hour meter (D65)	64 x 33 x 36	70 x 47 x 43	89276	200717
200693	200706	5 BASIC	5 illuminants, digital hour meter (D65)	64 x 33 x 36	70 x 47 x 43	1198	200718
200694	200707	Color Vision Viewer	3 illuminants	je 20 x 48	70 x 47 x 43	1719	200716

COLOR VIEWING LIGHT ADVANCED & PROFESSIONAL

The ADVANCED and PROFESSIONAL Color Viewing Light models offer practical matching for a range of surfaces and materials. The viewing booths have five different illuminants and are available in five different sizes, enabling diverse application areas to be covered.

Color Viewing Light ADVANCED
In the ADVANCED version a sequential order of illuminants can be saved for a recurring matching process. It can also provide mixed light when several light sources are triggered at the same time.

- 5 illuminants*: D65, D50, TL84, A, UV
- User-friendly Electronic Control Panel
- Digital hour meter for all illuminants
- Mixed light function
- Storage for 1 light sequence
- 5 different sizes: S, M, L, XL, XXL

*Standard design; on request other illuminants can be supplied

Color Viewing Light S ADVANCED

Color Viewing Light L ADVANCED

Article No. 230V	Article No. US type	Version	Features	Usable area (W x H x D cm)	Outside dimensions (W x H x D cm)	Relamping Kit 230V	Relamping Kit US type
Color Viewing Light ADVANCED							
200144	200708	Color Viewing Light S ADVANCED	5 illuminants, Electr. Control Panel	64 x 33 x 36	70 x 51 x 43	1198	200718
86108	85712	M ADVANCED	5 illuminants, Electr. Control Panel	75 x 41 x 51	81 x 60 x 60	1198	200718
200275	200709	L ADVANCED	5 illuminants, Electr. Control Panel	125 x 53 x 54	132 x 71 x 60	200700	200719
200684	200710	XL ADVANCED	5 illuminants, Electr. Control Panel	155 x 76 x 54	162 x 94 x 60	200701	200720
3426	7997	XXL ADVANCED	5 illuminants, Electr. Control Panel	114 x 80 x 83	128 x 111 x 100	200699	200721

Color Viewing Light PROFESSIONAL

The professional version offers many additional features. Illuminants can be dimmed and detailed reports on the matching process can be compiled. This means that all viewing booth parameters such as operating hours, selected illuminant and dimming level can be recorded in a log report, ensuring a possible repeat of the matching process at a later time. The viewing booth can also be operated remotely via a web-based remote control application and LAN connection by smartphones and Tablet-PCs.

- Dimmable light of all illuminants (except A)
- LAN connection
- Web-based remote control application for smartphones and Tablet-PCs
- Reporting function
- Storable brightness value
- 5 illuminants*: D65, D50, TL84, A, UV
- User-friendly Electronic Control Panel
- Digital hour meter for all illuminants
- Mixed light function
- Storage for several light sequences

*Standard design; on request other illuminants can be supplied

The remote-app can be used to easily select the illuminant via a laptop or smartphone and specify the automatic matching processes. In addition, the viewing booth can be turned on remotely with the browser so that it is immediately available after the warm-up period.

The Color Viewing Light XXL ADVANCED and PROFESSIONAL is used to assess the color of large and bulky objects. The huge volume of the viewing booth provides space for the visual assessment of components that are often seen in the metal and plastics processing industries.

Color Viewing Light XXL PROFESSIONAL

Article No. 230V	Article No. US type	Version	Features	Usable area (W x H x D cm)	Outside dimensions (W x H x D cm)	Relamping Kit 230V	Relamping Kit US type
Color Viewing Light PROFESSIONAL							
200687	200711	Color Viewing Light S PROFESSIONAL	LAN, Dimmer, Remote-App	64 x 33 x 36	70 x 51 x 43	1198	200718
200688	200712	M PROFESSIONAL	LAN, Dimmer, Remote-App	75 x 41 x 51	81 x 60 x 60	1198	200718
200689	200713	L PROFESSIONAL	LAN, Dimmer, Remote-App	125 x 53 x 54	132 x 71 x 60	200700	200719
200690	200714	XL PROFESSIONAL	LAN, Dimmer, Remote-App	155 x 76 x 54	162 x 94 x 60	200701	200720
200691	200715	XXL PROFESSIONAL	LAN, Dimmer, Remote-App	114 x 80 x 83	128 x 111 x 100	200699	200721

ACCESSORIES
COLOR VIEWING LIGHT

**The extensive range of accessories for the
Color Viewing Light series provides solutions which
are perfectly tailored for your requirements.**

Matte-black interior lining
For dark matching products, all Color Viewing Lights can be fitted with a matt-black interior lining. This reduces the brightness contrast between the color to be matched and the viewing booth.

45° angled viewing surface
The 45° gradient angle ensures a standardized viewing perspective in accordance with international standards.

Storage Cabinet for Color Viewing Light XXL
The bottom cabinet with its fitted drawers ensures that the Color Viewing Light XXL is positioned on a stable base. On request different cabinets are available.

Progressive angle adjustment 0-60°
At variably defined viewing angles, each angle can be set with progressive adjustments between 0 and 60°.
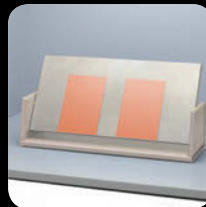
Sample holder with 5 angeled adjustments
The sample holder with 5 preset stops (-15°, 0°, 15°, 45°, 60°) is required for highly reflective surfaces like metallic paints. Also color changing and angle dependent colored surfaces can be matched.

Floor stand on wheels for Color Viewing Light XXL
The roller frame is used to move the Color Viewing Light XXL around the room easily and robustly.

Article No.	Version	Usable area (W x D cm)	Outside dimensions (W x H x D cm)
Accessories			
200735	Matte-black interior lining (please specify the size you need)		
95489	Progressive gradient adjustment 0-60°	49 x 33	
102244	Progressive gradient adjustment 0-60°	65 x 55	
61598	45° angeled viewing surface	63 x 27	
83824	45° angeled viewing surface for hanging	107 x 87	
200734	Sample holder with 5 angeled adjustments (-15°, 0°, 15°, 45°, 60°)	40 x 20	
28647	Floor stand on wheels	121 x 90	121 x 100 x 90
13508	Storage Cabinet	120 x 91	120 x 96 x 91

ELECTRONIC CONTROL PANEL

The ADVANCED and PROFESSIONAL Color Viewing Light range models are equipped with an Electronic Control Panel which performs a variety of tasks, enabling the illuminant choice and its dimming to be easily controlled. The Color Viewing Light can also be operated via a browser-based remote app and can also be remotely operated via wireless devices such as smartphones and laptops via the connection to the in-house network. Below is an overview of the different functions of the ADVANCED and PROFESSIONAL versions:

JUST NORMLICHT
ELECTRONIC
CONTROL PANEL

[☼] [🏠] [🛒] [ALT.] [UV]
[OK] [AUTO] [MENU] [−] [+]
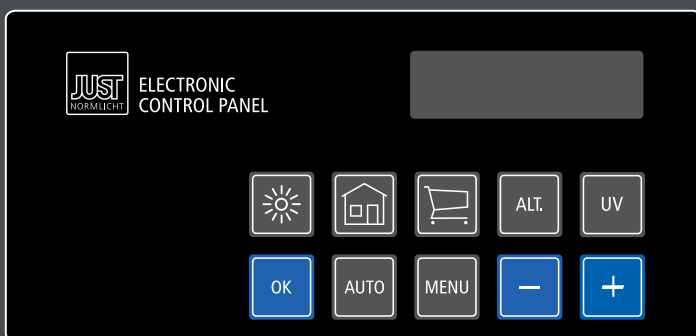
D65 Northern daylight for visual matching in accordance with CIE D65, DIN 6173

D50 Daylight for color matching in the graphic arts industry

A Incandescent lighting such as in the home or in restaurants

UV-A for the detection and assessment of materials with optical brighteners, fluorescent dyes and whiteners

TL84 (F11) Typical lighting for offices, showrooms and exhibitions

	ADVANCED	PROFESSIONAL
Illuminants	5 (D65, D50, TL84, A, UV)	5 (D65, D50, TL84, A, UV)
Available sizes	S, M, L, XL, XXL	S, M, L, XL, XXL
LAN connection		✔
Programmable sequences	1	10
Dimming (apart from A)		✔
Storable dimming		✔
Reporting function		✔
Remote-app		✔
Digital hour meter	✔	✔
Mixed light	✔	✔

GARMENT VIEWING BOOTH

In the Garment Viewing Booth textiles and clothing items can be matched in their original sizes. The Garment Viewing Booth has different light sources on the top and on both sides to ensure standardized illumination of the full viewing booth.

- Dimmable light of all illuminants (except A)
- LAN connection
- Web-based remote control application for smartphones and Tablet-PCs
- Reporting function
- Storable brightness value
- 5 illuminants*: D65, D50, TL84, A, UV
- User-friendly Electronic Control Panel
- Digital hour meter for all illuminants
- Mixed light function
- Storage for several light sequences

*Standard design; on request other illuminants can be supplied

Article No. 230V	Article No. US type	Version	Features	Usable area (W x H x D cm)	Outside dimensions (W x H x D cm)
Garment Viewing Booth					
27706	200737	Garment Viewing Booth	5 illuminants, Electr. Control Panel	115 x 165 x 60	128 x 196 x 100

MULTILIGHT
BASIC

The versatile multiLight color proof lights creates matching situations exactly where they are needed. multiLight BASIC can be fitted with two or three illuminants. multiLight PROFESSIONAL has five illuminants (D65, D50, TL84, A, UV) and can connect multiple multiLight PROFESSIONAL in a series in order to increase the viewing area.

multiLight BASIC
- Uniform light distribution
- Glare- and reflection-free illumination
- Digital hour meter
- A choice of 2 or 3 illuminants
- D65 plus additional illuminant on request

The specially developed prismatic glass guarantees consistent light distribution and accurate light guidance. The integrated hour meter for the different illuminants promptly indicates the necessary lamp replacement after 2,500 operating hours.

multiLight BASIC

Relamping Kit 230V	Relamping Kit US type
200738	200739

Article No. 230V	Article No. US type	Version	Features	Standard illumination area (W x D cm)	Outside dimensions (W x H x D cm)
multiLight BASIC					
23234	25312	multiLight 2 M BASIC	2 illuminants	100 x 70	128 x 16 x 80
23242	25320	2 L BASIC	2 illuminants	130 x 70	158 x 16 x 80
23267	25346	2 XL BASIC	2 illuminants	140 x 100	158 x 16 x 100
2600	7641	multiLight 3 M BASIC	3 illuminants	110 x 100	124 x 16 x 100
2626	7674	3 L BASIC	3 illuminants	140 x 110	124 x 16 x 150
2634	7849	3 XL BASIC	3 illuminants	190 x 110	124 x 16 x 195

*With D65 plus 1 or 2 additional illuminants from: D50, TL83, TL84, A, C

MULTILIGHT
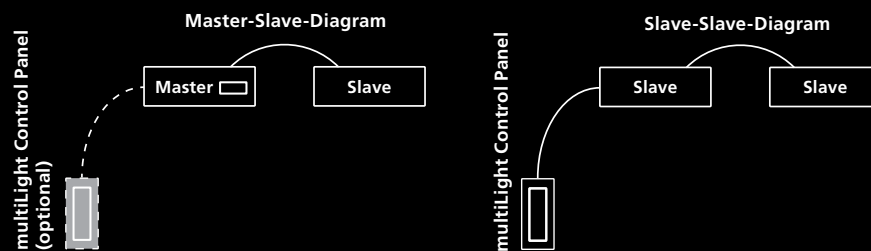## PROFESSIONAL

multiLight PROFESSIONAL

- Dimmable light for all illuminants (except A)
- LAN connection
- Web-based remote control application for remote control of multiLight
- Reporting function
- Storable brightness value
- 5 illuminants*: D65, D50, TL84, A, UV
- User-friendly Electronic Control Panel
- Digital hour meter for all illuminants
- Mixed light function
- Storage for several light sequences
- Prismatic glass for glare- and reflection-free color matching

*Standard design; on request other illuminants can be supplied

multiLight PROFESSIONAL

multiLight PROFESSIONAL connect

In accordance with the „master-slave principle" the Electronic Control Panel can expand the master lamp with additonal lamps without a control (so-called slave lamps). Alternatively several of these slave lamps can be switched on consecutively and be operated via the external multiLight Control Panel or via the web based remote control application and Wi-Fi.

Master-Slave-Diagram

multiLight Control Panel (optional)

Master — Slave

Slave-Slave-Diagram

multiLight Control Panel

Slave — Slave

Article No. Master/Slave 230V	Article No. Master/Slave US type	Version	Features	Standard illumination area (W x D cm)	Outside dimensions (W x H x D cm)	Relamping Kit 230V	Relamping Kit US type
multiLight PROFESSIONAL							
200686 / 200723	200726 / 200727	multiLight L PROFESSIONAL	5 illuminants, ECP, LAN, Dimmer, Remote-App	125 x 54	132 x 12 x 60	200700	200719
200722 / 200724	200728 / 200729	XL PROFESSIONAL	5 illuminants, ECP, LAN, Dimmer, Remote-App	155 x 54	162 x 12 x 60	200701	200720
	200725	multiLight Control Panel (extern)					

JUST MODULIGHT 6500

Whether for small meeting rooms, complete matching stations or spaces, JUST moduLight adapts to your room situation and creates standard lighting conditions where they are required.

Fresnel prism glass ensure precise color control without any irritating reflections and mirroring. Sophisticated lamellar technology creates a brightness and light distribution never seen before across the matching surface. JUST moduLight technology is therefore unparalleled in light quality, illuminance and uniformity in its creation of trouble-free matching conditions. As an option all JUST moduLights are available with SPcontrol which enables progressive dimming.

- Avoidance of reflections and mirroring through Fresnel prism glass
- Tight tolerances of ± 0.003° at the target color point
- Color Rendering Index Ra ≥ 98
- Illuminance of 2000 lux and lighting uniformity of ± 250 lux

Fresnel prism glass
For full glare and reflection-free color matching.

Traffic-light function
In order to ensure standardized color matching over many years, three colored LEDs located on the JUST moduLight draw attention to the next tube replacement after 2,500 operating hours.

Article No. 110-230V	Article No. US type	Version	Standard illumination area (W x D cm)	Outside dimensions (W x H x D cm)
JUST moduLight 6500 AS				
83709	89599	JUST moduLight 2/18-AS	50 x 50	88 x 11 x 31
83691	103739	JUST moduLight 2/36-AS	100 x 50	134 x 11 x 31
80093	89615	JUST moduLight 2/58-AS	140 x 50	164 x 11 x 31
83683	89623	JUST moduLight 4/18-AS	70 x 50	88 x 11 x 62
83675	89631	JUST moduLight 5/36-AS	100 x 70	134 x 11 x 78
89573	89649	JUST moduLight 6/58-AS	140 x 100	164 x 11 x 113
JUST moduLight 6500 CS				
83758	89664	JUST moduLight 2/18-CS	50 x 50	88 x 11 x 31
55681	86907	JUST moduLight 2/36-CS	100 x 50	134 x 11 x 31
80127	89680	JUST moduLight 2/58-CS	140 x 50	164 x 11 x 31
83741	89698	JUST moduLight 4/18-CS	70 x 50	88 x 11 x 62
55699	89714	JUST moduLight 4/36-CS	100 x 60	134 x 11 x 62
80119	89722	JUST moduLight 4/58-CS	140 x 80	164 x 11 x 62

Custom sizes are available on request.

For viewing from one side

For viewing from all sides

COLOR COMPANION

Color Companion is a large-format solution for the matching and quality assurance of industrial applications. It meets the highest standards and can be customized to your individual requirements with its flexible combination of accessories. Color Companion is available in two sizes and two versions, the standard version and the multiLight version with four illuminants (D65, D50, TL84 and A).

The optional UV-proof light makes Color Companion the ideal choice for assessing fluorescent products. JUST moduLight color proof lights are the perfect choice for glare- and reflection-free illumination and are unparalleled in terms of light quality and illuminance.
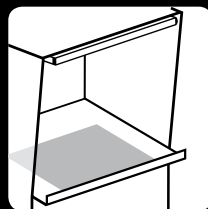
With Color Companion an area of up to 160 x 120 cm can be illuminated in accordance with all relevant standards. The big usable area makes working easier.
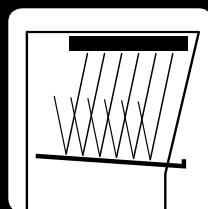
The asymmetrical light direction of the JUST moduLight allows for exact color control with-out any annoying glares and reflections.

Article No. 230V	Article No. US type	Version	Standard illumin. area (W x D cm)	Usable area (W x H x D cm)	Outside dimesions (W x H x D cm)
Color Companion 30					
200750	200751	with JUST moduLight 4/36-AS	140 x 100	161 x 120	169 x 230 x 148
200053	200436	with multiLight 4 illuminants (D65, D50, TL84, A)	140 x 100	161 x 120	169 x 230 x 148
Color Companion 40					
200752	200753	with JUST moduLight 4/58-AS	160 x 120	202 x 135	210 x 230 x 161
200097	200434	with multiLight 4 illuminants (D65, D50, TL84, A)	160 x 120	202 x 135	210 x 230 x 161

| Article No.		Version
Accessories		
**30	40**		
200054	200098	Shelf **A**
13672		Storage Cabinet **B**
173682	200091	Side shelf **B**
200089	200090	Filling cabinet **C**
200234	200235	JUST UV proof light (230V) 1/2x36W	1/2x58W
200440	200439	JUST UV proof light (US type) 1/2x36W	1/2x58W

Accessories range and possible combinations

A
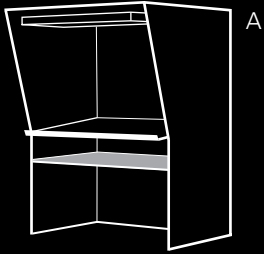
With up to five shelves, there is sufficient storage space for fast access to matching tools. The shelves can be placed in any position.

B
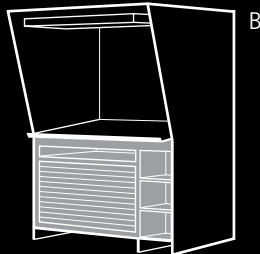
The side shelves provide many storage options together with the add-on cabinet in which tools can be stored in 15 drawers.

C
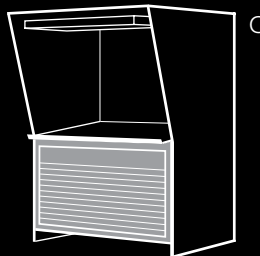
The filing cabinet has different levels of drawers and a lockable compartment to store utensils of all kinds.

Usable area
(W x D cm)

161 x 105 l 202 x 120
each 109 x 80 l 109 x 80
each 36 x 43 l 77 x 43
each 150 x 124 l 170 x 137

TRANSPARENCY VIEWERS / LIGHT TABLES

JUST light tables and transparency viewers are characterized by their flexibility of use and consistent illumination. Light tables are available with adjustable bases which offer an ergonomic technology and easy to use application. In the standard light design, light tables can be progressively dimmed. They have a color-neutral non-reflective surface and are also available with scratch-resistant crystal glass surface. Both, the transparency viewers and the light tables are best suited for quality controls in industrial applications due to their reliable and consistent illumination.

Classic Line

Transparency Viewers
The dimmable panels are used to check the integrity of translucent materials such as plastics and textiles. The Classic Line includes seven different sizes up to a maximum illumination area of 109 x 59 cm.

Light tables
Large transparent samples can be viewed through the scratch-resistant Standard and Vario light tables. In the Vario version the light tables are height and angle adjustable which promotes ergonomic working conditions.

Standard & Vario

Large-format light tables
The illuminant area of over 200 x 100 cm enables quality control to be performed on large-format and translucent materials.

Large-format light tables

For more information please visit our website at **www.just-normlicht.com** or contact us at **info@just-normlicht.com**

LED COLOR VIEWING LIGHT
HYBRID

Their long operating life, robustness, the absence of mercury and low phosphorous content are just a few of the features which make LED lamps attractive for both personal and industrial applications. Viewing booths with traditional light sources cannot simulate different illuminants such as D65, A or artificial illuminants. A separate lamp or viewing booth is necessary for every illuminant.

LED Color Viewing Light booths have a multi-spectral LED light source which meets these requirements and can be used to reproduce any possible light spectrum in high quality. This means that the generation of illuminants such as D65, D50 or A is just as possible as the implementation of any artificial illuminant. In the hybrid design, metameric failures can be detected by the addition of fluorescent lamps.

Through the unique calibration process of the multi-spectral LED light source, stable lighting conditions can be guaranteed for years.
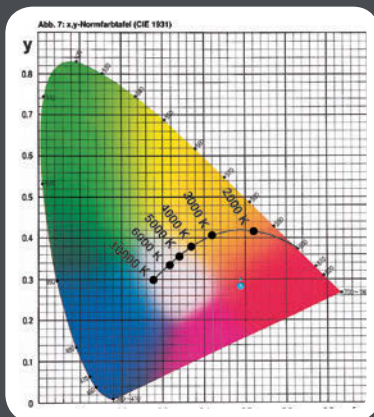
Light quality
The CIE chromaticity diagram to display light color (see fig.) creates the visible color spectrum of the human eye using x,y coordinates. The Planckian locus displayed inside reproduces the color coordinates of the Planck radiator at different temperatures.

In order to determine the light quality for matching, one must understand the color properties of the light source, in other words, color reproduction, color temperature and metameric color deviation. These are summarised in the Color Rendering Index (Ra) and the metamerism indices Mi (VIS) or Mi (UV). The Ra-value provides information on the perception of non-illuminated colors under a standard light source. The metamerism indices also expresses how well the light source simulates standard illuminants over the entire light spectrum.

The color temperatures along the curve, such as those of standard illuminant D65 or D50, can be reproduced exactly by the LED Color Viewing Light and are already programmed into the device. Through the LED technology, other color coordinates form one color spectrum bigger than sRGB can be selected as an illuminant for the LED Color Viewing Light.

LED Color Viewing Light M

adJUST LEDcontrol professional
adJUST LEDcalibration professional

Any illuminant can be selected and generated by the software adJUST LEDcontrol professional. Up to 10 of these can be transferred to the viewing booths and saved so that they can be permanently retrieved without a PC. Color temperature or color coordinates can also be freely selected.

Recalibration after 3,000 operating hours is easy to perform with adJUST LEDcalibration professional. In conjunction with a spectrometer from the **GL SPECTIS** range, an exact color proof and recalibration can be secured for many more years.

Any reproduction of illuminants

Through the multispectral LED light source, any illuminant can be implemented in high-quality. Metameric failures can be detected more reliably and for all user-relevant illuminants. The LED Color Viewing Light can be quickly commissioned with the 5 illuminants (D65, D50, TL84, A, UV) that are already pre-programmed.

- Perfect implementation of any standard illuminant D50, D65, D75, A, TL84* or artificial illuminants
- Adding UV energy for the detection of fluorescence

- Free choice of light spectra in a color space bigger than sRGB
- Stable lighting conditions through a patented** multi-level calibration procedure

- 10x longer operating life of the multi-spectral LED light sources in comparison to a fluorescent lamp

*in the hybrid-version   **Patent No.: US 8,592,748 B2

Accessories and components LED Color Viewing Light
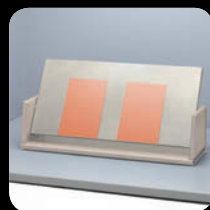(See page 9 for a detailed version of the optional accessories)

**Matte-black
interior lining**

**Progressive angle
adjustment 0-60°**

**45° angeled
viewing surface**

**Sample holder with
5 angeled adjustments**
(-15°, 0°, 15°, 45°, 60°)

D50

UV

LED Color Viewing Light XL HYBRID

HYBRID
Three additional fluorescent lamps for
better metameric failure detection.

Article No. 110-230V	Article No. US type	Version	Usable area (W x H x D cm)	Outside dimensions (W x H x D cm)
LED Color Viewing Light				
106104*	200733	LED Color Viewing Light S	33 x 38 x 36	37 x 51 x 42
96891	200732	M	65 x 38 x 36	68 x 51 x 42
172841	200731	M HYBRID	65 x 38 x 36	68 x 51 x 42
98681	99291	XL HYBRID	95 x 64 x 73	108 x 88 x 80
104166	200730	LED Color Proof Light XL HYBRID	100 x 70	108 x 12 x 80
Accessories				
200735		Matte-black interior lining (please specify the size you need)		
95489		Progressive gradient adjustment 0-60°	49 x 33	
102244		Progressive gradient adjustment 0-60°	65 x 55	
61598		45° angeled viewing surface	63 x 27	
200734		Sample holder with 5 angeled adjustments	40 x 20	
96925		adJUST LEDcontrol professional		
172668		adJUST LEDcalibration professional		

Multi-Voltage – for worldwide use   *not Multi-Voltage

Product sizes:

S

W 37 x H 51 x D 42 cm

M

W 68 x H 51 x D 42 cm

XL

W 108 x H 88 x D 80 cm

**LED Color Proof Light
XL HYBRID**
W 108 x H 12 x D 80 cm

GL SPECTIS
1.0 SERIES

The solution for light assessment and the recalibration of viewing booths and other light systems.

The GL SPECTIS range from GL Optic performs precise and reliable light measurements and is used for recalibrating lighting systems.
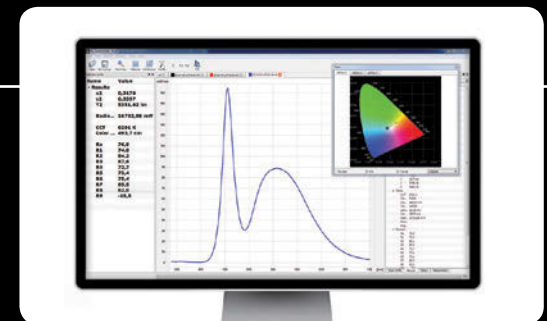
The intuitive **GL SPECTIS 1.0 touch** is a mobile spectrometer for the precise measurement of photometric and radiometric values. The sensor attached to the spectrometer performs measurements without a PC which are then displayed on the color touch-screen. Light and LED measurements can be easily transferred via Wi-Fi, USB 2.0 or microSD-Card to the PC so that light systems such as the LED Color Viewing Light can be recalibrated.

The user-friendly **GL SPECTIS 1.0** operates with a high amount of precision, and once connected to the PC, it can be used immediately. Its high degree of sensitivity and accuracy ensures that light measurement values can be determined precisely and then used for other purposes such as recalibration.

GL SPECTROSOFT PRO is a universal and professional software solution for spectral analysis and is intended for the evaluation of light sources of all types. The software determines the correlated color temperature, the colorimetric locus, wavelengths plus the Color Rendering Index and color coordinates in accordance with CIE-standards.

Article No.	Version	Features	Measurements; Weight
GL Optic – Spectroradiometer			
106260	GL SPECTIS 1.0 touch	340–750 nm, Touchscreen, Wi-Fi, USB 2.0, microSD card	74 x 145 x 24 mm; 315 g
67827	GL SPECTIS 1.0	340–750 nm, USB 2.0	72 x 115 x 19 mm; 120 g
173724	GL SPECTROSOFT PRO	Evaluation of all lighting metrological data in accordance with CIE and ISO-Standards.	

GL Optic is a brand of JUST Normlicht GmbH

JUST
NORMLICHT

Powered by Innovation.

JUST
LIGHT TABLES
AND
TRANSPARENCY
VIEWERS.

JUST
NORMLICHT

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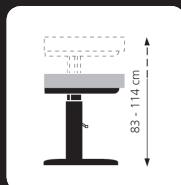
TRANSPARENCY/ LITHO LIGHT TABLES

JUST Litho Light Tables for retouching and cutting purposes. Ergonomical design and flexible handling ensure efficiency.

Transparency light tables are dimmable 500–5000 Lux. Equipped with non-reflective acrylic light diffusers and state-of-the-art lighting technology, they offer the ideal solution for color assessment of transparencies and films.
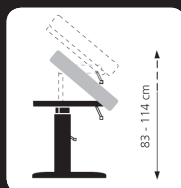
Standard ST
manual
height adjustment

75 - 90 cm

Vario HO
spring loaded height
adjustment

83 - 114 cm

**Vario SV**
spring loaded and
85° slope adapter

83 - 114 cm

Litho Light Tables
For cutting, pasting or retouching, with scratch resistant surface. Light intensity 3500 Lux for comfortable working.

Transparency light tables
Complies with the standard of 5000 Kelvin in slide evaluation. With non reflective acrylic surface, even illumination and high light strength.
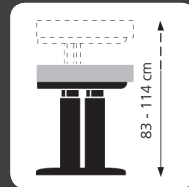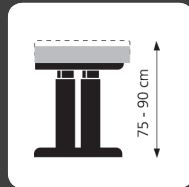
VARIO
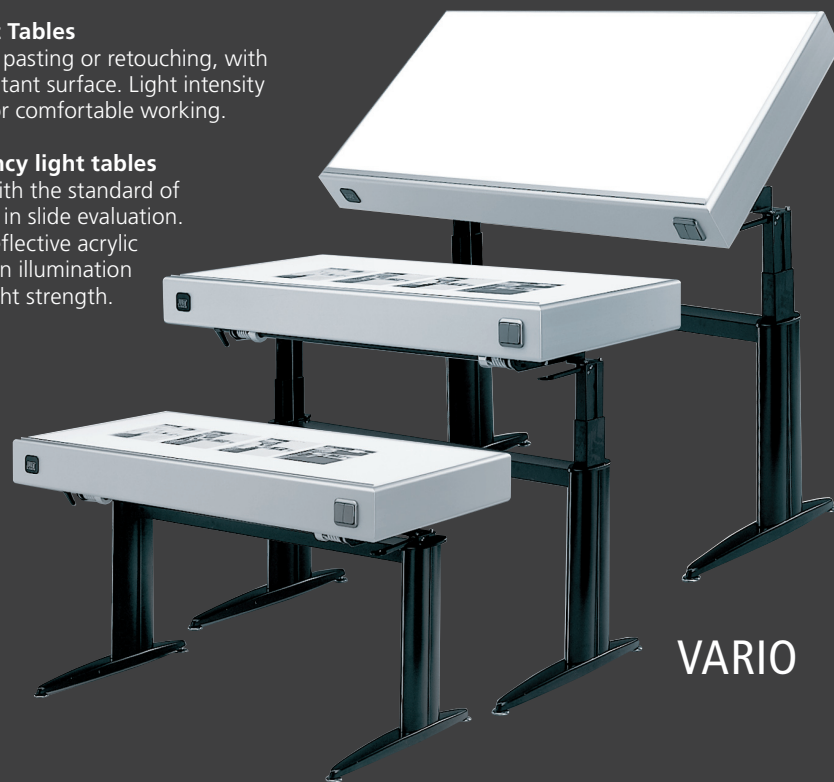
Litho Light Tables large Format
Item No. 23523

Upon request:
Custom tailored light tables available

LITHO LIGHT TABLES LARGE FORMAT

Litho Light Tables Large Format
Manual height adjustment

75 – 90 cm

Litho Light Tables Large Format
Spring loaded height adjustment

83 – 114 cm

Outside dim. (D x W cm)	Light area (D x W cm)	Standard ST		Vario HO		Vario SV	
		Item No.	Type	Item No.	Type	Item No.	Type
Litho Light Tables							
80 x 100	73 x 93	21311	LT /LM ST 4	21337	LT /LM HO 4	21519	LT /LM SV 4
80 x 123	73 x 116	21535	LT /LM ST 5	21568	LT /LM HO 5	21816	LT /LM SV 5
80 x 153	73 x 146	21915	LT /LM ST 6	21949	LT /LM HO 6	21998	LT /LM SV 6
100 x 123	93 x 116	23028	LTS/LM ST 9*	23036	LTS/LM HO 9*	23168	LTS/LM SV 9*
100 x 153	93 x 146	23176	LTS/LM ST 10*	23184	LTS/LM HO10*	23200	LTS/LM SV10*
Transparency Light Tables							
80 x 123	73 x 116	21055	LTS/NL ST 5	21063	LTS/NL HO 5	21089	LTS/NL SV 5
80 x 153	73 x 146	21105	LTS/NL ST 6	21121	LTS/NL HO 6	21147	LTS/NL SV 6
100 x 123	93 x 116	21154	LTS/NL ST 9	21162	LTS/NL HO 9	21188	LTS/NL SV 9
100 x 153	93 x 146	21204	LTS/NL ST 10	21220	LTS/NL HO 10	21246	LTS/NL SV 10
Litho Light Tables Large Format							
123 x 153	116 x 146	23432	LTS/LM ST12	23465	LTS/LM HO12		
123 x 220	116 x 217	23523	LTS/LM ST14	23572	LTS/LM HO14		

With scratch resistant crystal glass and white acrylic diffusor.

*With electronic dimmer 300–3500 Lux

With non reflective acrylic light surface (6 mm). Standardized with electronic dimmer 500–5000 Lux and electronic ballasts.

With electronic ballasts and dimmer, 300–3500 Lux.

TRANSPARENCY FLAT VIEWERS

Smart Light 5000

JUST Normlicht's price-attractive flat viewer in five different sizes for every type of application.

Classic Line 5000

The top of the line viewers are equipped with an electronic slide dimmer and available in 7 sizes. Features include electronic, instant start ballasts, infinite dimming, flicker free operations, and extremely uniform illumination. Suitable for reproducing transparent artwork and digitalizing slides by scanner.

Item No.	Type	Light area (D x W cm)	Outside dim. (D x W x H cm)	Watt
Smart-Light 5000 transparency flat viewer				
2105	SL5/DL 1	26 x 38	32 x 48 x 6	1 x 15
2113	SL5/DL 1A	26 x 51	32 x 63 x 6	1 x 18
3368	SL5/DL 2	35 x 38	42 x 48 x 6	2 x 15
3814	SL5/DL 2A	35 x 51	42 x 63 x 6	2 x 18
12146	SL5/DL 2C	35 x 112	42 x 124 x 6	2 x 36
Classic Line 5000 transparency flat viewer, electronic dimmer				
17244	CL /DL 1 EVG	38 x 35	52 x 38 x 8	2 x 15
17269	CL /DL 3 EVG	52 x 35	66 x 38 x 8	2 x 18
17277	CL /DL 4 EVG	74 x 48	76 x 62 x 10	4 x 18
11866	CL /DL 5 EVG	86 x 35	100 x 38 x 10	2 x 36
11874	CL /DL 6 EVG	86 x 59	100 x 62 x 10	3 x 36
21865	CL /DL 7 EVG	109 x 35	123 x 38 x 10	2 x 36
21899	CL /DL 8 EVG	109 x 59	123 x 62 x 10	3 x 36

JUST NORMLICHT

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COLOR CONTROL CENTER
multiLight

Accessible standardized viewing booth for visual color control.

The new Color Control Center multiLight with four light modules for visual color assessment and detection of metameric effects.

The versatile multiLight color viewing light is specifically designed for color matching of large items and surface areas. It is a complete system that creates a standards-conformant viewing environment without the need to construct a room.

Up to three illuminants can be configured from a choice of five (D65, D50, TL84, A, UV). With support for a virtually unlimited number of lights in series, the system can be scale to illuminate entire rooms under defined lighting conditions.

Application Areas

JUST Normlicht multiLight color viewing lights are used for the visual assessment of colors and surfaces in numerous industrial sectors:

- Automotive, Aerospace
- Furniture
- Textiles, Clothing
- Paints, Coatings, and Plastics
- Ceramics
- Cosmetics, Fashion, Retail
- Printing and Reprographics
- All industries where the critical assessment of colors and surfaces is essential

multiLight PROFESSIONAL connect

Any number of color viewing lights are operated either directly via the external Electronic Control Panel or remotely via WiFi through the supplied remote app using a PC, tablet, or smartphone.

MULTILIGHT:

- Lamp housing made of aluminum profile, silver-anodized, 124 x 80 x 16 cm

- Symmetrical light distribution for reflection-free color matching

- Maximum output for high illuminance

- Fitted with 2–3 illuminants for detection of metamerism:
  - D65 daylight 6500 kelvin, illuminance 2000/3500 lux
  - D50 daylight 5000 kelvin, illuminance 2000/3500 lux
  - TL84 / F11 store light 4000 kelvin, illuminance 2000/3500 lux
  - A incandescent/halogen light 2856 kelvin, illuminance 2800 lux (with cooling fan)
  - Illuminance at a height of 1m above ground level

- Compliant with ISO 3668; DIN6173-2, and VDA 280 parts 8B, 8C

- JUST daylight 5000 proGraphic and JUST daylight 6500 proIndustry lamps ensure a precise simulation of daylight illuminants of the quality grade BC (min.) according to CIE 51.2 – measurement log and certificate are included

- Homogeneous illumination by means of prismatic lenses, UV-transmittant

- No reflection of lamps on matching samples

- Digital hour meter for all illuminants, with notification if a lamp needs to be replaced

Power consumption:
4 kW from multiLight Center when fitted with all 4 color viewing lights

Power supply:
16 A, 3~, either via red CEE plug or direct installation

CONTROL OPTIONS:

- Modern SPS control system in external housing

- Control an unlimited number of lights

- Operation via Electronic Control Panel

- Via WiFi with the system's remote control using a PC, tablet, or smartphone (Remote application)

- 10 freely programmable matching sequences

- Illuminants D65, D50, and TL84 are dimmable

- Options for the automatic creation of matching logs

- Mixed light conditions can be unlocked if required

Alternatively:
Manual control unit with socket available

STANDARDIZED VIEWING BOOTH:

- Viewing booth dimensions 325 x 235 x 280 cm (W x D x H) with top panel for complete ambient light exclusion

- Framework of easy-to-assemble, solid aluminum profiles (80 mm square profiles)

- Available surrounds include lightweight removable sliding doors, solid walls, or opaque curtains with a neutral gray finish.

- Can be fitted with up to 4 multiLight lamps

Accessories:

- Light table 200 x 90 cm, double-pedestal table with neutral gray worktop
  - Optional equipment: Motorized height adjustment from 68 to 118 cm (triple memory)
  - Continuous gas-spring height adjustment from 83 to 114 cm
  - Continuous gas-spring height and slant adjustment (up to 85°) from 83 to 114 cm

- Further table sizes available upon request

TECHNICAL SPECIFICATIONS – multiLight PROFESSIONAL	
Housing:	Aluminum profiles, silver-anodized
Dimensions:	124 x 80 x 16 cm (W x D x H)
Weight:	25 kg
Mounting:	With eyebolts or steel wires in 4x M5 blind threaded rivet on top
Diffusing lens:	Fitted according to ISO 3668
Lamp configuration:	Illuminant D65: 8x JUST daylight 6500 proIndusty Power consumption: 260 watt
	Illuminant F11 (TL84): 5x TLD 840 – T8 Power consumption: 165 watt
	Illuminant A: 2x halogen lamp 205W E27 4000 lm Each with cooling fan, not dimmable Power consumption: 540 watt
Control options:	Electronic Control Panel with power relays
Digital hour meter:	For every illuminant
Power consumption:	Total: 1 kW
Power supply:	Built-in plug for low-heat devices with protective conductor
Supply voltage:	100–240 V; 50–60 Hz multi-voltage
Degree of protection:	IP 20